

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) An implantation system comprising:

an implant having an exterior threaded surface portion, said exterior threaded surface portion defining ~~a plurality of~~ first and second channels said first channel having a longitudinal axis and a first locking surface;

a driver, ~~at least partially~~ operable to be removably disposed within said first and second channels, having a cutting portion and a driving portion, wherein the cutting portion is configured to form an implant engaging surface within a work material, and the driving portion is configured to drive the threaded portion into engagement with the implant engaging surface; and

a generally u-shaped fastener ~~operable to be~~ having first and second members, wherein the first member is disposed within the first channel ~~channels~~ and configured to be fixed to the implant, said first member defining a second locking surface engaged with the first locking surface thereby restricting linear movement of the u-shaped fastener in a first direction along the longitudinal axis of the first channel, said fastener and implant defining an aperture therebetween, said aperture being configured to fixably engage graft material and, wherein at least one of the implant or the fastener defines a graft engaging surface within the aperture, said graft engaging surface comprising a graft engaging member configured to engage the graft.

2. (Original) The system of claim 1 wherein the implant is a bone screw.
3. (Cancelled)
4. (Original) The system of claim 1 wherein the implant further comprises a generally cylindrical body, the body including a first end defining a top surface, a second end, a threaded outer surface and at least one channel, the channel extending from the top surface to the second end.
5. (Currently Amended) The system of claim 4 wherein the cutting portion includes a plurality of thread forming portions linearly spaced along the cutting portion, the cutting portion positioned within the ~~channel~~ first and second channels such that the implant can be threaded into an aperture formed within the work material as the cutting portion forms an internal threaded surface within the aperture.
6. (Original) The system of claim 1 wherein the work material is a bone.
7. (Original) The system of claim 1 wherein the implant is resorbable.
8. (Previously Presented) The system of claim 1 wherein the ~~implant~~ defines first and second channels define a pair of opposed channels.

9. (Currently Amended) An implantation system comprising:

an implant having an exterior threaded surface which defines a pair of longitudinal channels, said longitudinal channels intersecting the exterior threaded surface;

a driver having a cutting portion and a driving portion, wherein the cutting portion is configured to form an implant engaging surface within a work material, and the driving portion is configured to drive the threaded surface into engagement with the implant engaging surface, wherein the implant defines an anchor locking surface; and

a staple at least partially disposed within the longitudinal channels having an upward locking surface, the upward locking surface ~~configured to engage~~ engaged with the anchor locking surface so as to restrict translation of the staple in a first direction along a longitudinal axis of one channel of the pair of longitudinal channels.

10. (Original) The system of claim 9 further comprising a graft interposed between the staple and the implant.

11. – 15. (Cancelled)

16. (Currently Amended) A bone attachment apparatus comprising:

an implant having a generally cylindrical body, the implant including a first end defining a top surface, a second end, a threaded outer surface defining an arcuate groove and further defining a pair of longitudinal staple accepting channels; and

a staple having a locking surface, the locking surface ~~configured to engage~~ engaged with a surface of the staple accepting channels thereby restricting linear movement of the staple along a longitudinal axis of one of the channels of the pair of longitudinal staple accepting channels and with respect to the implant, wherein said staple and said implant define a soft tissue accepting aperture therebetween, wherein the staple interrupts the arcuate groove and prevents rotation of the implant with respect to a work surface.

17. (Original) The apparatus of claim 16 wherein the staple includes a graft holding surface.

18. (Original) The apparatus of claim 16 wherein the implant includes a graft holding face.

19. (Previously Presented) The apparatus of claim 16 wherein the implant is adapted to be coupled within an aperture defined by a bone, the aperture including a slot extending to an exterior surface of the bone, wherein the staple is at least partially located within the slot, thereby inhibiting rotation of the implant relative the bone.

20. (Currently Amended) A method of connecting an implant to a bone comprising:

forming an implant engaging surface within a bone aperture by rotating a driver within the bone aperture;

driving the implant into the bone aperture, wherein a threaded surface defining an arcuate groove of the implant engages the implant engaging surface;

inserting a staple into ~~a pair of~~ first and second longitudinal channels defined within the threaded surface[[],];

fixably coupling the staple to the first and second longitudinal channels so as to restrict movement in a first direction along a first channel longitudinal axis, whereby the staple bindingly engages both the implant and a surface defining the bone aperture, said staple further intersecting the groove; and

preventing rotation of the implant with respect to the bone.

21. (Previously Presented) The method of claim 20 further comprising forming a slot within the bone aperture.

22. (Cancelled)

23. (Previously Presented) The method of claim 20 wherein driving the implant into the bone aperture and rotating the driver are performed simultaneously.

24. (Original) The method of claim 20 wherein forming the implant engaging surface includes rotating the implant within the bone aperture.

25. (Previously Presented) The method of claim 20 further comprising forming a slot by translating a driver in a direction that is parallel to the axis of the bone aperture.

26. (Previously Presented) The method of claim 20 wherein driving the implant into the bone aperture forms a slot.

27. (Original) The method of claim 20 wherein driving the implant into the bone aperture includes linearly translating the implant.

28. (Original) The method of claim 20 further comprising inserting the staple into a channel formed within the implant.

29. (Original) The method of claim 28 wherein inserting the staple into the slot and inserting the staple into the channel are performed simultaneously.

30. (Original) The method of claim 20 wherein driving the implant includes threading a resorbable bone screw into the bone aperture.

31. (Original) The method of claim 20 wherein driving the implant includes linearly driving a resorbable bone screw into the bone aperture.

32. (Currently Amended) A method of connecting an implant to a bone comprising:

forming an implant engaging surface within a bone aperture;

driving the implant into the bone aperture, wherein an exterior threaded surface defining an arcuate groove of the implant engages the implant engaging surface;

inserting a staple into a slot having a slot axis defined in the threaded surface, whereby the staple bindingly intersects the groove and engages both the implant and the bone aperture so as to resist rotation of the implant;

engaging a locking surface of the staple with a surface of the implant so as to restrict linear movement of the staple in a first direction along the slot axis and with respect to the implant; and

interposing a graft between the implant and a surface defining the staple.

33. (Original) The method of claim 32 wherein interposing the graft between the implant and the staple includes engaging the graft with a graft holding surface of the staple.

34. (Original) The method of claim 32 wherein interposing the graft between the implant and the staple includes engaging the graft with a graft holding face of the implant.

35. (Previously Presented) The method of claim 32 wherein inserting the staple into the slot includes engaging an anchor locking surface with a staple locking

surface wherein the anchor locking surface defines at least a portion of a channel formed within the implant.

36. (Currently Amended) A method of driving an implant comprising:
forming an aperture within a bone;
defining a cutting surface accepting channel having a channel axis and a thread
defining an arcuate groove in an exterior surface of the implant;
coupling the implant to a driver so as to position the cutting surface within the channel;
driving the implant into the aperture;
forming an implant engaging surface within the aperture;
disposing a fastener within the channel[[,]];
coupling the fastener to the channel so as to prevent linear translation of the staple along the channel axis with respect to the implant;
interrupting the arcuate groove and preventing rotation of the implant with respect to the aperture; and
coupling soft tissue to the fastener.

37. (Original) The method of Claim 36, wherein driving the implant and forming the aperture are performed simultaneously.

38. (Original) The method of Claim 36, wherein driving the implant includes linearly translating the implant.

39. (Withdrawn) The method of Claim 38, wherein driving the implant includes impacting the driver.

40. (Original) The method of Claim 36, wherein driving the implant and forming the implant engaging surface are performed simultaneously.

41. (Original) The method of Claim 36, wherein forming the implant engaging surface includes forming a threaded surface.

42. (Original) The method of Claim 36, wherein driving the implant includes rotating the driver.

43. (Original) The method of Claim 36, wherein forming the implant engaging surface includes forming the implant engaging surface with the implant.

44. (Previously Presented) The method of Claim 36, wherein forming the implant engaging surface includes forming the implant engaging surface with the driver.

45. (Currently Amended) The system of ~~claim~~ Claim 1 wherein the implant further comprises a generally cylindrical body, the body including a first end defining a top surface, a second end, a threaded outer surface and at least one channel, the channel extending from the top surface to the second end.